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Derwent Title: Pressure detector using sensor chip as sensor element or strain gauge - has passive-state film formed on gas-contact face of diaphragm of pressure detector using sensor chip to prevent corrosion, or water content emission from, or catalytic action at gas-contact face [\[Derwent Record\]](#)

Country: JP Japan

Kind: A (See also: [JP03403294B2](#))

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Application Number: JP1996000238706

IPC Code: G01L 9/04; G01L 19/00; G01L 19/06;

Priority Number: 1996-09-10 JP1996000238706

Abstract: PROBLEM TO BE SOLVED: To eliminate the possibility of lowering the quality of product even a pressure detector is applied to a semiconductor production process, by forming a passive film on the gas-contact face of a stainless steel diaphragm having specified dimensions provided on a diaphragm base.

SOLUTION: A diaphragm 3 of about 50μm thick having an inside diameter of about 10mm is made of stainless steel and has a gas-contact face 3a on which a passive film 3b of chromium oxide, a fluorinated passive film 3b or a mixed oxide passive film 3b of aluminum oxide and chromium oxide is formed. After forming the diaphragm 3 integrally with a diaphragm base 4, the diaphragm base 4 formed with the passive film 3b and a sensor base 1 are abutted against the gas contact face 3a of the diaphragm 3 and the entire circumference of the side wall face is welded 8. Subsequently, an oil injection hole 1b is filled with a pressure transmission medium (silicon oil) 5 and a sealing body (ball) 6 is welded 10 to the sensor base 1 thus sealing the silicon oil 5 hermetically.

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## (54) PRESSURE DETECTOR

## (57) Abstract:

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face 3a of the diaphragm 3 and the entire circumference of the side wall face is welded 8. Subsequently, an oil injection hole 1b is filled with a pressure transmission medium (silicon oil) 5 and a sealing body (ball) 6 is welded 10 to the sensor base 1 thus sealing the silicon oil 5 hermetically.

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